

1. (Original) An ice skate blade, comprising:
an elongated blade body having a main blade portion and an edge portion made from Type 60 Nitinol;
said edge portion of said blade body having an ice-contacting bottom edge;
said main blade portion having structure for engaging a blade holder;
said bottom edge having opposed corners that are sharpened to bite into ice to facilitate travel and maneuvering on said ice;
said main blade portion having an impact strength of greater than 45 foot-pounds and a hardness greater than about 40 RC.
2. (Original) An ice blade as defined in claim 1, wherein:
said main blade portion has a tensile strength of greater than 130KSI and an elastic elongation of more than 3%.
3. (Original) An ice blade as defined in claim 1, wherein:
said blade body has a hardness between about 48RC and 55RC.
4. (Original) An ice blade as defined in claim 1, wherein:
said ice blade is an ice skate blade, and said blade holder is affixed to an ice skate boot;
said structure for engaging a blade holder includes structure on a top edge, opposite to said bottom edge, for engaging said blade holder of said ice skate boot.
5. (Canceled).
6. (Original) A method of making ice blades, comprising:
selecting a Type 60 Nitinol sheet that has been hot-worked at a temperature of about 900°C to 950°C to a reduction of at least about 2% in the dimension of said hot-working;
cutting ice blade blanks from said sheet;

heating said blanks to between 600°C to about 800°C and immediately quenching said blanks to ambient temperature to produce blanks having a hardness of about 48-53RC; and
grinding one edge of said blade blanks to a desired profile and sharpness.

7. (Original) A method as defined in claim 6, further comprising:
heat treating of the bottom of the blade to produce a very hard and erosion resistant surface.
8. (Original) A method as defined in claim 7, wherein:
said heat treating of said bottom of said blade includes heating said one edge to an elevated temperature of about 850-1000°C and immediately quenching said blade blank to produce a hardness at said one edge of above 58RC.
9. (Original) A method as defined in claim 6, wherein:
said grinding step includes rotating a narrow grinding blade, made primarily of cubic boron nitride, against said one end of said blade blanks and grinding off a layer of Nitinol in several passes, each pass being at a depth of 0.015"-0.020".
10. (Previously Amended) A method as defined in Claim 6, further comprising:
heating said part to a temperature above 700°C;
placing said part between matched dies having a die interface profile corresponding to said desired shape; and
holding said part at said temperature for a period of at least about 15 minutes.
11. (Original) The method as defined in claim 9, further comprising:
immediately after said holding period, rapidly quenching said part in coolant from said temperature to a temperature below about 400°C.
12. (Original) The method as defined in claim 10, wherein:
said part is an ice blade and said desired shape is flat.

13. (Previously Added) An ice skate, comprising:
an elongated blade body having a main blade portion and an edge portion made from Type 60 Nitinol;
said edge portion of said blade body having an ice-contacting bottom edge;
said main blade portion having structure engaged in a blade holder that is fastened to a boot;
said bottom edge having opposed corners that are sharpened to bite into ice to facilitate travel and maneuvering on said ice;
said main blade portion having an impact strength of greater than 45 foot-pounds and a hardness greater than about 40 RC.
14. (Previously Added) An ice skate as defined in claim 13, wherein:
said main blade portion has a tensile strength of greater than 130KSI and an elastic elongation of more than 3%.
15. (Previously Added) An ice blade as defined in claim 13, wherein:
said blade body has a hardness between about 48RC and 55RC.
16. (Previously Added) An ice skate as defined in claim 13, wherein:
said main blade portion has a Young's modulus that is lower than the Young's modulus of steel.
17. (Previously Added) An ice skate as defined in claim 13, wherein:
said main blade portion has a higher damping capacity than steel.
18. (Previously Added) An ice skate as defined in claim 13, wherein:
said main blade portion has a lower coefficient of friction on the ice than steel.
19. (Previously Added) An ice skate as defined in claim 13, wherein:

said edge portion of said blade body heat treated to have a smooth and hard oxide finish on bottom and side edges thereof that is harder and smoother than said main blade portion, and has a lower coefficient of friction to produce glide and running properties on ice superior to steel.

20. (Previously Added) An ice skate as defined in claim 13, wherein:
said blade body is heat treated to reduce brittleness and improve toughness and impact strength, and give the skate blade an elastic property called ultraelasticity.

21. (Currently Amended) An ice skate blade as defined in claim 1, wherein:
said elongated blade body edge portion is free of reinforcement by any hardening constituent other than derivatives of Type 60 Nitinol.